Third National Research Symposium on Limited English Proficient Student Issues:
Focus on Middle and High School Issues

First Plenary Session

A Conceptual Framework on Learning Environments and Student Motivation for Language Minority and Other Underserved Populations

James McPartland
Jomills Henry Braddock II

Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students

More effective schooling for Latino and African American students will best be provided by designing learning environments that address the special circumstances of students' own backgrounds—both the disadvantages that derive from conditions of poverty or discrimination as well as the strengths that come from cultural traditions and family experiences. All students need the same basic sources of motivation to work hard at learning tasks, but schools often fail to encourage the best efforts from Latino and African American students because they do not provide educational opportunities that meet the realities of these students' out-of-school experiences and respect the students' backgrounds on which positive learning experiences can be built.

This conceptual framework ties the typical circumstances of Latino and African American students to basic motivational sources that encourage learning as a basis for analyzing key components of school learning environments that can be improved for these students who strongly depend upon effective schools during their formative years. The first part presents four basic motivational sources and their relation to the education of underserved students; the second part of this paper discusses existing school practices that exacerbate current barriers and suggests changes in school practices to help schools eliminate or reduce these barriers.

Barriers to Underserved Students' Motivation in School

We define a framework of four basic motivational components that all students need in their schools, and analyze how underserved students often face barriers in each component because their schools fail to address the special circumstances of their economic, family, community, and minority status. After laying out this framework, we discuss how schools can address each of the four motivational sources for underserved students through changes in school organization, curriculum, and instructional practice, and describe research and development activities to support such school improvements. (Figure 1 provides an outline of our framework).

All students need four sources of motivation to work hard at learning tasks: opportunities for success, relevance of school work, a caring and supportive human environment, and help with personal problems.

Opportunities for Success

Students need to have their efforts at school work recognized and rewarded by regular positive responses from others who are important to them. The immediate rewards that are most frequently offered to students to motivate them to do good school work are high marks on tests and report cards, praise from teachers and family members for success at learning tasks, and respect from peers for meeting the challenge of classroom assignments. But underserved students often face special circumstances of poor prior preparations, weak continuing support at home for academic tasks, and negative peer pressures that deprive them of decent opportunities to achieve immediate rewards for school work under the usual ways that schools structure the criteria and competition for academic success and track students into classes by achievement levels.

Unserved students are likely to be below average in prior preparation for learning tasks because poor families do not have the resources to build the foundation of academic skills compared to students with the benefits of college-educated parents, middle-class home possessions, and early education investments. The contrasts can be dramatic even at the beginning of first grade, where many students from poor families are struggling with limited vocabularies and a weak sense of the functions of printed materials, while many students from upper socioeconomic backgrounds are already well on their way to basic reading competencies. Students from homes where English language usage is limited are especially likely to face barriers to school success when these special circumstances are not accommodated to transportation needs and other extracurricular or employment obligations. Some schools are using interdisciplinary teacher teams with eight-period daily schedules that allow time every day for teams to diagnose and serve students with special needs. Extra help is provided through supervised peer-tutoring arrangements or by direct tutoring from teachers themselves in a period set aside each day for this purpose. Extra help in regularly scheduled courses from another teacher or aide in the classroom is an approach found useful in Chapter 1 and mainstreamed special education programs, where extra funding could be more widely utilized for disadvantaged students.

Some disadvantaged students may be reluctant to accept extra help from teachers or peers because they feel embarrassed or stigmatized by being assigned to "remedial" classes. Some case studies in college settings indicate the social climate can be carefully defined in extra-help classes to overcome initial reluctance of some students to participate (Treisman, 1985).

New opportunities for success

In addition to programs to equip students to meet academic standards with stronger prior preparation and extra help along the way, schools can find better ways to recognize student academic success when it occurs. Recent research indicates that methods to measure and reward individual students' growth and improvement are practical and have strong effects on student motivation and teachers' positive expectations for disadvantaged learners (MacIver, 1991).

The idea of giving marks to students for "effort" or "improvement" is not new in education, but the typical approach is for teachers to add a subjective rating on these factors at report card time. Research suggests that teachers hardly ever give high subjective ratings to students who are well below class average in absolute performance (Salganik and Epstein, 1982). Moreover, even if some below average students do get

recognized for effort or improvement, the report card is not issued frequently enough to give them a motivational boost, especially when the positive messages are accompanied by low marks in their conventional grades. However, new methods based on objective scoring of improvement points on weekly tests have been found to overcome these practical problems of teacher resistance and frequency of student reinforcement.

The different capacities of poor and wealthy homes to support students' learning activities continues through the elementary, middle, and high school grades. Students from deprived backgrounds may not have a quiet place at home to study, while well-to-do students will often have not only a quiet place but also home libraries and computers to support their learning activities. While parents who are not well educated can give strong emotional support in the education of their children, they will not have the academic strengths to help with homework as students progress through the grade levels to more challenging courses.

In addition, peers can be a particularly negative distraction from academic work for many underserved minority students, especially at the middle and high school grades. Some case studies have suggested that in some African American adolescent peer groups, good students are put down by their fellow students as "acting white," which can be a very powerful discouragement to further efforts at school work (Ogbu, 1985; Fordham and Ogbu, 1986). It has also been suggested that individual Latino students striving to excel in the usually highly competitive structure for high grades and test scores can sometimes clash with Latino peer norms that value strong community ties and cooperation among members.

In the second part of this paper we will discuss the school practices that currently exacerbate the barriers to success in school faced by disadvantaged youngsters and the specific changes in the social organization of schools that may provide new opportunities for success to motivate disadvantaged students.

Relevance of School Work

Students must also believe that school work makes sense for their current and long-term welfare. The classroom tasks should be intrinsically motivating to students by being inherently interesting or by directly relating to students' current interests and identity. Courses should be instrumentally motivating by being obviously related to preparation for future goals and aspirations.

For several reasons, underserved or disadvantaged students are more likely to find their school work to be dull and boring and to have difficulty in seeing connections between school work and their own future. Because disadvantaged students are often behind their age mates in basic skills, they are frequently assigned to lower-tracked classes that concentrate on repetitive drills and practice activities that are far less intrinsically interesting than the higher order learning tasks found in the upper tracks attended by students from more advantaged backgrounds. Also, students from racial or ethnic minority backgrounds are less likely to see models from their own cultural heritage in learning materials, which weakens the personal interest they might otherwise find in classwork. Students who have grown up in Spanish speaking homes may be turned off by schools that fail to value their first language as a positive source to maintain and build upon.

Disadvantaged students also will be less confident about going on to college, because the costs may seem prohibitive for their family budgets and there may be no family history of college attendance, so they may lose the strong motivation to work hard for good grades that drives more advantaged students who definitely look forward to applying for college. Similarly, disadvantaged students who see high levels of adult

unemployment in their community, or minority group students who believe they will confront employment discrimination, will have greater difficulty in believing that working hard in school will pay off for them with good jobs later in life.

In the second part of this paper we will further discuss the school practices that currently add to the problems of disadvantaged students in connecting school work to personal interests and goals, and new directions to increase the relevance of school and activate the intrinsic and instrumental motivation of these students.

A Caring and Supportive Human Environment

Students must also be attached to their school in human terms, on a personal level, with the perception that their teachers care about them as individuals and with the belief that the educational professionals at their school will actively support their efforts to learn. A positive human relationship between teachers and individual students contributes to student learning because the students' desire to earn the respect and praise of the teacher can be a powerful source of social motivation when the student feels a close and positive association with the teacher. Moreover, a teacher often can serve as a more effective role model for a student learner after a positive relationship has been established.

There are several reasons why disadvantaged students may feel more socially estranged from their school and may be less likely to establish the close positive relationships with their teachers that could support their needs as learners. Social class and ethnic subgroup differences in child rearing practices and communication patterns can be a frequent source of misunderstanding or friction in teacher-student relations when the teacher is from white middle class origins and the student is not (Delpit, 1988). For example, student discipline problems can begin, or worsen, due to teacher misreadings of the meaning or intentions of certain interchanges with individuals from different family backgrounds. Also, expectations of what is required for a good grade that are obvious to middle class students can be missed by other students due to social class differences in some subtleties of interpersonal communication. Having teachers from the student's own race or ethnic group who are of the same sex can be the source of closer, more positive teacher-student bonds, but recent statistics have underlined the serious underrepresentation of males and of Latino and African American teachers in the public school teaching force.

Strong parent and community links to the school can help students feel a positive attachment to their own school and teachers because students will often mirror the attitudes of the adults in their home and neighborhood and teachers may often show more personal interest in students when they know the parents as well. Again, disadvantaged students are more often deprived of the positive connections between home, community, and school that can help lay the foundation for positive human attachments between the student and adults at school (Lightfoot, 1978).

The human climate can vary within a school, and disadvantaged students are more likely to be in the less selective programs and lower tracks, where the norms of teacher caring are often weaker and the human climate more alienating (Oakes, 1985). Moreover, disadvantaged students may often have it worse in the typically large schools with departmentalized staffing in which teachers have daily contact with large numbers of students and are likely to have positive relations only with students whose performance is outstanding (Powell, Farrar, and Cohen, 1985).

The second part of this paper discusses changes in school organization and practice that have the potential

for improving the human climate of schools attended by disadvantaged students, and the research and development needed to pursue these ideas.

Help with Personal Problems

Students need to be free of serious personal problems that get in their way as they seek to fulfill their student role and attend to their school learning responsibilities. The range of problems includes: debilitating physical or mental conditions that prevent normal school behaviors; teenage motherhood, which requires special services for the student's education to continue; substance abuse or dependency of varying severity that impedes proper classroom attention; and unusual home responsibilities or family difficulties that pull students away from their school program.

Disadvantaged students are much more likely to come from home and neighborhood environments that expose them to such personal problems. Community conditions of high unemployment, violence, crime, and easily available drugs are constant threats to youth in the area. These conditions often lead to problems at home that seriously detract from students' efforts at school. Local youth are also prey to the drug culture that is active in their community. Rates of teenage pregnancies outside of marriage are highest in high poverty areas, especially for disadvantaged youth who are not doing well in school. Too often, a combination of these factors overwhelm any realistic chance that disadvantaged youths can attend to their educational responsibilities. Their motivation for school work is distracted by continuing concern with personal problems or replaced by counterproductive motivations from involvement in local conditions of drugs and crime.

The second part of this paper will address promising approaches for protecting students from the outside threats to their school responsibilities or for assisting students with serious personal problems by using the school to coordinate efforts with positive community sources and provide social services to students with special needs.

Figure One
Conceptual Framework for Research and Development on Effective Schooling for Underserved Students

Underserved Students Have Special Hardships	***That Weaken Their***	**Primary Sources of Student Motivation**	***Which Requires Reforms of***	**Specific School Organization, Curriculum, and Instructional Practices**
Poor families have weak resources to support student learning.	**<-----**	1. Success in school (motivation of immediate rewards).	**----->**	Powerful early interventions; alternatives to retention; extra help with academics.

Perceived lack of opportunity, occupational discrimination, and prohibitive cost of college make school seem less important.	<-----	2. Relevance of school work to current interests and future goals (intrinsic and instrumental motivation).	----->	Culturally sensitive curriculum; alternatives to tracking and Special ED placements; transition to work.
Home and community socialization patterns are poorly matched to middle- class white conventions and norms at school.	<-----	3. Support of student by teachers and administrators (social motivation).	----->	Alternatives to disciplinary removals; alternative to departmentalized staffing.
Higher probabilities of drug abuse, teenage pregnancies, and delinquency in the immediate environment create greater needs for help.	<-----	4. Help with personal problems (elimination of counterproductive motivations).	----->	Integration of services; family-community connections.

Creating Learning Environments that Motivate and Support Latino and African American Students

In the first section, we elaborated the special circumstances of many Latino and African American students and identified four primary sources of student motivation that these special conditions affect in negative ways. In this section, we examine how the current organizational, curricular, and instructional practices of schools exacerbate the motivational problems of underserved students and examine the research and development activities that are necessary to change these structures and provide new alternatives that support and encourage the efforts of disadvantaged students to succeed in school, relate school to their relevant interests, be attached to school in caring and supportive ways, and cope with their out-of-school personal problems. We consider each source of student motivation in terms of specific components of schools that seem most influential for disadvantaged youth at different stages of their elementary, middle, and secondary school careers.

Success in School

All students can be successful at school work, but students who begin a term far behind their average classmates often have little opportunity to get good grades and positive recognition for their efforts in class. Disadvantaged students flunk courses at high rates and are retained to repeat the same grade. Others students who do get high marks on tests, praise from teachers for their school work, and can bring home high report card grades to proud parents get regular motivational reinforcements from the frequent immediate rewards attached to good school work. Many disadvantaged students, even though they may try hard at school work, are deprived of the boosts to their motivation and confidence as learners that comes from academic success. They often will be less likely to put forth as much effort in the future as they continue to fail to receive rewards and recognition for their school work.

Greater opportunities for underserved students to succeed in school can be treated in four ways: early prevention of failure, extra assistance in later grades, the development of new criteria for success, and the development of alternatives to retention.

Early prevention of problems is the goal of new approaches in the initial elementary grades. Research is showing that it is possible to insure that nearly all disadvantaged students can achieve a firm foundation of basic reading and computation skills by age eight. But early prevention will require major new resources and investments.

Extra help when it is most needed in middle and high school grades can prevent many of the failures experienced by students having trouble mastering particular learning objectives. But innovative scheduling and organizational arrangements, combined with additional resources, are needed to connect individual students with the help they need to be successful.

In addition, new opportunities for academic success can be offered to all students regardless of their rank in class by instituting methods to recognize students' growth and improvement, and by permitting students to demonstrate their academic competencies in a greater variety of ways. Opening new opportunities for success requires extensive staff development to give teachers the new tools and techniques they need.

Finally, avoiding course failures and grade retentions can be achieved by methods that permit students to recover from initial failure by earning delayed credit in various ways that do not weaken standards or reward procrastination. New school organization forms that replace age-grade distinctions with continuous-progress instructional groupings is another alternative to grade retentions. Again, added resources and careful staff development are necessary to carry this out.

We will discuss each of these four areas in more detail.

Early Prevention

We know the probability of learning and dropout problems in the later grades can be significantly reduced when students build a firm foundation of basic reading and math skills in the early grades (Howard and Anderson, 1978; Lloyd, 1978; Kelly, Veldman, and Mcguire, 1964). Research evidence is growing that carefully designed programs which start early and focus on the early elementary years can guarantee that all students will be competent readers and will have mastered basic computational skills by the end of third grade (Madden et al., 1991). Programs such as Reading Recovery and Success for All combine curriculum advances with school organization innovations and extra support services to make sure that any student having learning difficulties gets intensive professional help before falling behind and requiring remedial instruction. Success for All starts with activities in Pre-K and kindergarten to build oral language strengths and familiarity with print materials that children need before receiving direct instruction in word recognition and reading. The Success for All Program adds several fully-certified teachers to the elementary faculty, which permits teacher-directed reading instruction to small homogeneous groups as well as daily one-on-one tutoring to students having difficulties. The reading curriculum uses frequent opportunities for oral reading and incorporates comprehension goals throughout the lessons.

Professional one-on-one tutoring is a key feature of both Reading Recovery and Success for All, because research shows it is the most effective extra-help to keep students on a standard learning pace. In Success for All, the extra tutoring is naturally coordinated with the regular reading class activities because staff serve as both classroom teachers and individual tutors at different times of the day. These programs can cost up to

$1,000 extra annually for each student although there are less expensive versions (close to the amount added by Chapter 1 funds), that research shows make impressive differences but do not come as close as the fully-funded package to the goal of keeping every single student on a steady path to becoming a competent reader (Madden et al., 1991). Evidence is impressive on the positive effects of programs such as Success For All, including on the achievement of limited English proficient (LEP) children such as Cambodian students (Slaving and Yampolsky, 1992).

Other comprehensive programs for the elementary grades are also promising. Some use computer technology, which may have special appeal to some students, but evaluation evidence is not as far along in verifying their effectiveness. Most of these additional programs also are significantly more costly than the typical instructional approaches they replace. But these initial extra costs may result in significant savings in later grades, due to major reductions in special education placements and grade retentions of students who benefit from the early elementary investments. It is also important to note that the extra costs of programs for disadvantaged students such as Success For All typically only bring the per pupil expenditure in many such schools in large urban districts up to the level comparable to average state or national expenditures.

Extra Help When It Is Needed in Middle and High School Grades

Even with the benefit of early prevention programs, some disadvantaged students lack home environments that can provide strong support in advanced course work, and thus will continue to struggle with some classroom learning tasks. But these students can continue to be successful if they receive extra help and encouragement when they are having trouble with their learning tasks. Recent research identifies a variety of approaches for remedial extra-help in the middle grades that produce less course failures and grade retentions (Maclver and Epstein, 1991). The critical practical issues are how to allocate and schedule resources to effectively provide extra academic help and how to make the activities attractive and motivating to disadvantaged students.

Extra help usually needs to be scheduled during the regular school day because many disadvantaged middle and high school students cannot attend coaching classes before or after school due to transportation needs and other extracurricular or employment obligations. Some schools are using interdisciplinary teacher teams with eight-period daily schedules that allow time every day for teams to diagnose and serve students with special needs. Extra help is provided through supervised peer tutoring arrangements or by direct tutoring from teachers themselves in a period set aside each day for this purpose. Extra help in regularly scheduled courses from another teacher or aide in the classroom is an approach found useful in Chapter 1 and mainstreamed special education programs, which with extra funding could be more widely utilized for disadvantaged students.

Some disadvantaged students may be reluctant to accept extra help from teachers or peers because they feel embarrassed or stigmatized by being assigned to "remedial" classes. Some case studies in college settings indicate that the social climate can be carefully defined in extra help classes to overcome initial reluctance of some students to participate (Treisman, 1985).

New Opportunities for Success

In addition to programs that equip students to meet academic standards with stronger prior preparation and provide extra help along the way when needed, schools can find better ways to recognize student academic success when it occurs. Recent research indicates that methods to measure and reward individual student

growth and improvement are practical and have strong effects on student motivation and teachers' positive expectations for disadvantaged learners (MacIver, 1991).

The idea of giving marks to students for "effort" or "improvement" is not new in education, but the typical approach is for teachers to add a subjective rating on these factors at report card time. Research suggests that teachers hardly ever give high subjective ratings to students who are well below the class average in absolute performance (Salganik and Epstein, 1982). Moreover, even if some below average students do get recognized for effort or improvement, the report card is not issued frequently enough to give them a motivational boost, especially when the positive messages are accompanied by low marks in their conventional grades. However, new methods based on objective scoring of improvement points on weekly tests have been found to overcome these practical problems of teacher resistance and frequency of student reinforcement. These methods establish a personal test score baseline for each student from a moving average of recent test scores, which the individual needs to exceed to receive improvement points. These points are awarded regularly, usually weekly, and are accompanied by various rewards and recognitions such as certificates, buttons, or messages to take home. These methods help teachers become aware of the learning potential of below-average students, and motivate students to try hard in class for positive recognitions that are now within their grasp. Results from carefully designed experiments show that students in the "incentives-for-improvement" program feel more positive toward their classes and are more willing to work hard in class, resulting in better conventional grades at report card time for the below average student and ten percent fewer course failures (MacIver, 1991). Significantly, these approaches are especially effective with African American and other adolescent males. Further research and development is needed to extend these approaches to include additional objective methods for rewarding improvements (such as revisions of written work and retaking tests with equivalent items) and new ways of using the improvement points from weekly tests to add information at report card time.

Another set of approaches to open new opportunities for academic success is to find multiple modes through which students may demonstrate their competencies outside of the usual test-taking methodologies. Sometimes, these strategies are part of an overall movement to get away from the fragmented curriculum driven by the usual multiple choice tests of disconnected facts or formulas. For example, in the Coalition of Essential Schools model developed by Theodore Sizer, students demonstrate their learning accomplishments through an ambitious project where individuals can show their knowledge and skills through a performance using a variety of modes of presentation. The projects that students undertake can be expected to be much more motivating than getting ready for the usual test. In addition, disadvantaged students who know the material but are not good at taking tests would be prime beneficiaries of these changes.

Changes at the high school level may also be part of reforms of the way students progress through school, replacing the system of course credits awarded for fulfilling specific time requirements in specified courses (for example, earning Carnegie units based on required courses that meet for specified amounts of time) with a performance-based system where students can earn progress to the next level by demonstrating their mastery regardless of the class time spent on the course area. But performance-based reforms must await major new assessment tools and organizational innovations that would provide extra help for students who most need it and allow some students to progress at more rapid rates. Moreover, the potential benefits and costs in educational opportunities for disadvantaged students are unknown and the danger is clear that new examinations will be introduced without extra resources to prevent failure of needy students in meeting higher standards (McDill, Natriello, and Pallas, 1985).

Overall, we need to find better ways to motivate students who are below average in current performance to still work hard in class by recognizing their good work, even when it does not beat the class mean and when

it can be demonstrated in ways other than the conventional paper and pencil test. A diverse array of methods are now available that give new opportunities for success to disadvantaged students but they are only used in isolated experimental locations and require more extensive research and development before they can or will be used commonly in schools.

Alternatives to Grade Retentions

We described earlier how frequently disadvantaged students are left back to repeat a grade in American schools, and how this action is more likely to lead to a higher probability of dropping out than to any benefits in students' education. We need more "last resort" alternatives to grade retentions for students who have not yet achieved the minimum requirements in basic courses that are prerequisite to the next topics in the area, or whose attendance rates fall far below minimum standards. Again, a variety of experimental programs exist to help students recover from course failures without grade retentions that should be considered for wider dissemination.

The use of "bridging classes" is one approach that withholds promotion to the next grade until students make up deficiencies, but gives failing students intensive extra help to catch up in the next term and to earn a delayed promotion to the same grade as their age-mates. For example, middle grade students who failed multiple classes at the end of the sixth grade would not yet be promoted but assigned to a bridging class where they could earn promotion to grade seven by the end of the next term and be back in step with their classmates who had already been promoted. Often, bridging classes include extra resources (smaller class size, smaller teacher team size) and concentrate class time on basic skills courses in reading and mathematics. Bridging classes also frequently use detailed point systems or individual contracts for students to maintain specific attendance and homework requirements for passing grades and give individual attention to specific skill deficiencies of each student. Sometimes, summer school classes precede the bridging class term to give additional attention to students' learning needs.

Alternatives to retention at the primary and elementary schools are essential because an estimated 20 percent of children are retained in some manner at levels K-1. One approach is the policy to replace grade retention with a continuous progress, cross-age grouping system and the use of non-graded programs for the first three primary years (Goodlad and Anderson, 1987); this innovation is mandated as the school organization model in some states. But replacing grade retention with regrouping may mean a greater use of tracking, which can be very detrimental for disadvantaged students. Thus, research and development need to examine approaches that move all students along regularly with their age-mates, except for age regrouping restricted to one or two subjects (mathematics and/or reading-writing). The elementary school Joplin Plan uses cross-age grouping and shows promise for reducing retention (Slaving, 1987); versions have been used in middle schools in science and social studies departments that use interdisciplinary teaming and have a fixed set of topics to be covered by all students in the middle grades (Floyd, 1954).

Doing away with grade retentions as a method for dealing with student diversity does *not* mean adopting a policy of social promotions and lower standards. Viable alternatives are grade promotion systems in which students who do not at first meet minimum course standards are given a second chance with extra help to keep on pace with their age-mates, or continuous-progress policies with cross-age regrouping restricted to one or two basic subjects. Again, such experimental programs are infrequent and localize and require further research and development to make them available in forms that could be widely disseminated.

Relevance and Interest of Learning Tasks

Student motivation to get seriously involved with school work involves not only their chances to succeed at learning tasks but also how interesting and important they find the learning tasks to be.

School work can be intrinsically motivating when the activities themselves involve behaviors that students naturally enjoy and topics that students can connect with their current lives. Current curriculum and pedagogy in the elementary, middle, and high school grades is often criticized for being rudimentary and boring, dependent on the passive lecture-listen approach, and disconnected from and insensitive to students' own family heritage. At the preschool-elementary levels, the recognition and acceptance of developmentally appropriate education is increasing (NAEYC, 1988), but much research and development is needed to specify truly appropriate organization and curricula. At the middle and high school levels, major new directions in the character of classroom learning experiences are being introduced that recognize and take advantage of early adolescent students' natural interests in active and social modes of learning. Special steps need to be taken to ensure that minority and disadvantaged student also benefit from these trends.

In addition, recent qualitative studies of African American youth suggest that some disadvantaged minorities are put off by the majority culture's dominance of their school curriculum and must overcome powerful peer pressures not to excel at academic school work (Ogbu, 1985: Fordham and Ogbu, 1986). New programs to address these factors are being developed and deserve careful evaluations (Ascher, 1991). Likewise, many Latino students would derive strong motivational benefits from curricula that respects and build upon Spanish language skills and community experiences as valuable learning resources (Moll, 1992).

Besides reforming classroom activities to make them more intrinsically interesting for all students, schools should activate the instrumental motivation of students through activities and school work that are directly tied to long-term goals. Middle and high school students who are unsure about going on to college have an especially difficult time in seeing the connection between school work and their future (William T. Grant Foundation, 1988). Current school curriculum often makes little sense to them as something useful for later life, and they fail to see how doing well in school will make much difference in getting a good job (Bishop, 1989). New ideas have been developed about firming up the connection between education and work through new programs of vocational-technical and apprenticeship training and new methods of making school records on a wide range of accomplishments that are useful in the employment process. While some disadvantaged youth may benefit from these new directions, changes to make attendance at four-year college accessible to more students and to ensure early awareness of these opportunities are at least as important.

New Curriculum and Pedagogy

A number of major reforms are aimed at making the classroom learning environment much more invigorating for all students. Previous emphasis on drill-and-practice of facts and formulas to pass multiple choice tests can be replaced by learning experiences and testing methods based on higher order learning competencies such as comprehension skills in reading, problem solving abilities in mathematics, critical thinking skills in social studies, and reasoning with evidence abilities in science (Resnick, 1987). Previous classroom routines of teacher-lecture and student-listen can be replaced by learning activities where students take initiative and play an active role (Sizer, 1989). Previous dependence on class work and projects where students work on their own and compete for good grades can be transformed into cooperative learning approaches where students work in teams to help one another achieve learning goals (Johnson and Johnson, 1987; Slavin, 1990). Cooperative learning approaches have been found to be especially useful for classes that mix students from different backgrounds, including students with different primary language

backgrounds (Calderón, 1990; Taggert, 1991). Previous curriculum that rarely used minority group examples in basic courses and that relegated information on minority group members' contributions to American life into separate curriculum units can be replaced by course content that minority students can relate to personally and which covers more diverse sources of the American culture and traditions.

The new emphasis on higher order learning, now in its earliest stages of implementation, is closely tied to developments in testing methods and policies that have important implications for disadvantaged students. Because curriculum is often strongly influenced by the tests that districts and states require for student progress and used to evaluate program effectiveness, there was concern that the use of minimum competency tests aimed at the basic requirements was driving instruction to low expectations and excessive drill-and-practice on rudimentary skills for all students (Resnick and Resnick, 1985). Some states, such as Connecticut, have taken the lead in developing new ways to test higher order skills in the major subject areas, to eventually replace the multiple choice formats that require recall of isolated facts or formulas. Although it is risky to predict the final outcome, it is reasonable to guess that some combination of minimum competency tests and higher order tests will be used at key points in the sequence from the elementary grades to high school completion, with consequences for student progress and credentials at different stages. The danger is that many disadvantaged students will be deprived of access to higher order learning environments if they continue to fall below the cutoff point on minimum competency tests and are assigned to follow-up classes that repeat instruction in these basic skills.

Because cutoff points will always be decided in part by the actual distribution of test scores (Shepard, 1983), and many disadvantaged students, because of weaker early learning environments, will always be on the lower end of the distribution, tests used to channel students into different curricula will remain a constant threat to disadvantaged students' opportunities to benefit from higher order learning environments.

Cooperative learning, which aims to capture the power of the peer group for academic pursuits, is used extensively in the elementary grades and often in the middle grades, but has not yet been widely adopted in high schools where student responsiveness to peer group pressures is strongest (Newmann and Thompson, 1987). Different versions of cooperative learning are now available that have different potential costs and benefits for disadvantaged students that still need to be worked out in careful research and development at the middle and secondary grades. Disadvantaged students stand to lose if cooperative learning projects degenerate into group projects where the best students do all the work, but versions are available that stress group rewards and individual accountability of each group member. Some worry that competitions for student-team recognition will reinforce status distinctions within teams to the detriment of below average members (Cohen, 1987), but versions of cooperative learning are available in which each team member has a good chance to contribute individually to team success. The question remains: “Which versions of cooperative learning are best suited to higher order learning tasks rather than drill and practice for basic skills, especially for disadvantaged students whose prior preparation in basic skills is weak?”

Some phases of the recent renewal of the movement to make school curricula more sensitive to minority group presence in American life and to their historic contribution to American culture have been controversial. Most agree on the goals of an improved curriculum that minority students can also relate to personally, and that is respectful of the role minority group members have played in developing our nation and its ideals. But certain new programs to enhance the academic motivation of African American males (Ascher, 1991) and new curricula to build pride in ancestral heritages by emphasizing non-Western phases of world history have had strong critics (Vindero, 1990). In assessing the worth of these more controversial efforts, we should be able to evaluate carefully their impact on improving students motivation to learn and remain in school.

Preparation for College

Middle and high school students who expect to continue onto college can more easily see the connection of current school work to their future plans than those without strong college intentions. Getting good grades and taking challenging courses will have a direct payoff for college bound students that is not at all clear for students bound for the job market after completing high school (Bishop, 1989). Many disadvantaged students are not pushed by the motivation to do well in school in order to get into college because they lack confidence that college is in their future, often even when they clearly have the grades and test scores to qualify for admission to college. Recent studies have shown several factors that depress chances that disadvantaged students will be realistically aware of their college opportunities and will prepare themselves for college with appropriate behaviors in the middle and high school grades.

Three factors have been the targets of programs to increase opportunities for college for disadvantaged students: student aspirations for college, financial aid to cover college expenses, and assistance with academic preparation for college.

Disadvantaged students have aspirations for college during middle and high school grades that are as high or higher than the average for their age-mates, so there is no general problem in student desires for further education. Even disadvantaged student expectations are high at middle and early high school grades that they will go on to college (Hafner et al., 1990; Duran, 1993). Apparently the value of a college education is strongly perceived and desired by students from all social and ethnic groups in this country. But youngsters from poor families or from families with no previous college experience do not accompany their general aspirations and expectations with information about the prerequisites to qualify for different fields of study or the concrete steps necessary to get into college and pay for it. Thus, programs to simply boost disadvantaged students' desires for college seem inadequate, unless they at the same time introduce students to specific fields of study they should consider and assist with the specific steps that lead to college attendance.

Many worthwhile programs have been developed to make disadvantaged students aware of careers where minorities have been underrepresented in the past. These include courses, clubs, and activities related to careers in mathematics and science (MITE, MESA), and programs in high schools that emphasize broad industries and careers (magnet schools, Finance Academy, Macy health sciences programs). Although there have been few scientific evaluations of these approaches (Richards, Williams, and Holland, 1978), they seem to fill a need to give some disadvantaged students a more realistic appreciation of careers that require college study and clearer connections between their current school work and their future success.

The most extensive programs to open realistic college opportunities to disadvantaged youth have concerned financial aid for college costs. These include the federal programs of Pell grants and Stafford loans for college, and private programs guaranteeing student aid for higher education. Recent studies have shown that these programs often miss their mark for poor and minority students because of poor information, unwieldy procedures, absence of guidance and support services, and mismatch with disadvantaged students' views of taking on debts. The U.S. General Accounting Office (GAO) (1990a, 1990b) and Chelimsky (1991) report research showing that students and parents have limited knowledge about the costs of attending different kinds of colleges and about the availability of federal student aid. Gross overestimates or underestimates of costs are common, and lack of knowledge exists in middle grades, persisting even as students approach high school graduation. Many students and parents believe incorrectly they are ineligible for aid. The lack of

basic information cut across all social and race/ethnic groups, with poor Hispanic families, especially, being deprived of accurate information and knowledge. In addition, the tremendous shift of federal aid to fewer grants and more loans may also have reduced some minorities' chances of going on to college, since a recent report shows that low-income minority students are much less likely to borrow for college than low-income Whites (Miller and Hexter, 1985, 17).

College attendance for disadvantaged students is also the goal of a number of programs which essentially "adopt" a class, grade, or even school of students in the elementary years and promise to pay college tuition for those students when they graduate from high school. The programs among these that offer not only tuition payment, but also provide advocacy and mentoring to students through the years, seem most successful (Berger, 1989). The actual impact of these programs, however, is not yet well evaluated (Natriello, McDill, and Pallas, 1990).

The present application procedures for college admissions with financial aid are also highly complex and poorly timed for many disadvantaged families. Programs to provide guidance and support through the process are either unavailable or inadequate for the need. Characteristic of these problems is the Financial Assistance Form (FAF), a complex disclosure packet on family income and resources with a deadline that in effect expects an applicant's family to complete its tax return calculations months before it is actually due for IRS purposes. Registering FAF information is just the first step in a process through which specific colleges put together aid packages for individual students who have applied and have been admitted to their program. Federal programs to assist disadvantaged students in the application processes are sometimes available, but have not been carefully evaluated (TRIO). Recently, Congress, along with some states, is attempting to revise and simplify this process, so that students from very poor families automatically qualify for aid and realistic knowledge of aid eligibility is acquired by students and families in the middle school or early high school grades.

Private programs have grown in recent years to offer disadvantaged students early notice of guaranteed financial aid for college and additional support in preparing for college. A recent GAO report (1990b) found these programs presently reach only a tiny fraction of needy students and have not been systematically evaluated, although it appears some more comprehensive programs have the potential for keeping some students in school longer during high school and into college. Programs operated by the chambers of commerce in some cities (Boston Compact, Baltimore Commonwealth/College Board Bound Foundation) offer "last-dollar" guarantees for the remaining assistance needed after a college aid package has been received, and often tie the guarantees to students' maintaining high grades and excellent attendance in high school. It is unclear how often these stipulations direct the aid to students who would get into college anyway without offering new realistic incentives to add disadvantaged students to the college-bound group.

While early knowledge in high school about specific programs of study in college and about the realistic availability of college aid is related to eventual enrollment in postsecondary education, better information is only one factor, along with academic preparation and personal attitudes, for increasing disadvantaged students' attendance at college. But improved knowledge is clearly desirable to motivate more disadvantaged students to take prerequisite courses needed for specific college majors, to work hard for good grades, to build a college admissions record, and to take other useful and financial steps along the way to getting into college.

The distinction between two-year and four-year colleges is important because of their relative accessibility to disadvantaged youth and their motivational potential for secondary school students. The rapidly increasing tuition costs for private and public four-year colleges and the shift of federal college student aid

from grants to loans may put attendance at four-year schools out of reach for more and more disadvantaged students who are unwilling to take on large debts to cover the required costs. Two-year colleges will receive a greater share of minority students in post-secondary programs, and the proportion of college degrees held by disadvantaged youth will decline because few students from two-year college ever transfer to degree granting programs. College prospects limited to two-year programs will not drive motivation to work hard in high school, since entrance to most two-year programs does not require any minimum grade or test performance.

Transition to Employment

Students who will not be going to college find it difficult to make any direct connection between school work and their future. Employers rarely if ever consider high school grades, tests, or other information in the hiring process, and most students know it (Bishop, 1989). Although the high school diploma is often used as an initial screening requirement for many entry level jobs, this may not motivate potential dropouts who know the actual credential is rarely checked and who may think they will later complete a high school diploma equivalency program if they really need to.

Three approaches can be identified to make school work more relevant to students who enter the job market without college: rewarding students in the employment process for good work in school, developing new vocational-technical programs in high school that produce specialized marketable skills, and combining education and employment in apprenticeship arrangements tied to actual employers and career ladders.

Employers would be interested in information about many aspects of student's behavior in school that are like behaviors required on the job, but it is not worth their time and trouble to go after this information from current school sources. In choosing whom to hire for job openings, it would be useful for employers to know whether a candidate had a good attendance and discipline record in school (an indicator of a reliable worker), whether a candidate was a leader or team member in school sports or clubs (an indicator of someone who works well with others), whether a student excelled at certain kinds of course work (an indicator of language or computational skills and general learning abilities), and whether a student had successfully completed specialized courses such as typing or technical offerings that may be directly useful to a job. (Creating a "job passport" or "portfolio" of such accomplishments for each high school student that could be presented at a job interview has been proposed to give employers useful information at the same time as giving students a reason to see school as their "current job" and the habits and skills developed at school as preparation for work and as a record to be used in seeking employment (Charner, 1988). The job passport would be a portable, official, laminated document with records of accomplishment assembled across the high school years, and names of school references to be contacted for verification or further information. Each student would be encouraged to add details of their high school accomplishments that they believe demonstrate their special strengths (best course, role in school projects or activities, service to the community, and so on), and be given opportunities to practice job interviews in which they use their passport data to show their own interests and strong points.

Another approach is to reform and revitalize vocational-technical courses for students who plan to go directly into the work force after high school. Earlier research indicates that students in typical vocational programs may stay in school through high school at a higher average rate than equivalent students not in such programs, but they often do not get jobs that use the specialized skills provided by the program (Bishop, 1989). Programs that emphasize more generic technical and work-related skills (U.S. Department of Labor, 1991) or growing careers that need specialized knowledge (health, computers) may increase the

holding power of high schools and provide direct employment benefits. Recently, the state of Oregon has restructured its high school program to make students choose between job training or college preparatory tracks after tenth grade, with revitalized technical courses and special certificates of mastery. Newspaper accounts of the Oregon approach raise questions about stereotypes and stigmas developing with a dual-track system, about the high costs of equipping and staffing high quality technical offerings, and about the absence of job guarantees or placement assistance.

Flexible programs combining school work and work-site experiences may also help disadvantaged students earn their high school diploma while directly preparing them for occupational careers. Dropout recovery programs give students who have left school a second chance to get a diploma, often through preparation for the GED high school equivalency test; these are usually combined with flexible schedules so that individuals can maintain paid employment or training so participants can get a better job (Rumberger, 1990). Innovative apprenticeship programs tied to the education system (similar to programs in some European countries) have recently been urged for this country (Hamilton, 1990a, b), but it remains to be seen how many employers would participate with guaranteed career-line jobs and wages for apprentices-in-training (Hoyt, 1991). More direct assistance in the job search process by school staff (similar to practices in Japan) has also been recommended (ETS, 1990), but practical issues of staff costs and employer cooperation loom here as well.

Without major new public funding, probably the most likely programs to grow are local labor market "commonwealth" and "partnership" agreements between businesses and schools to offer employment advantages (summer or part-time work and guaranteed job interviews that can lead to full-time employment) for students who maintain good school records for attendance and class work. Much research and development is needed, however, to identify effective elements of these programs, evaluate their impact, and make them available for widespread use.

Human Climate of Caring and Support

Students need to feel attached to school as a human community that recognizes their individuality and that cares about and supports their success. The need for positive human relationships between students and teachers and the climate of common purpose and support is emphasized in several studies of effective schools for disadvantaged students (Bidwell, 1987; Coleman, 1987; Bryk and Driscoll, 1988; Lightfoot, 1978; Lipsitz, 1984) and is a key concept in recent models for secondary school improvement (Coalition for Essential Schools, 1985). Most elementary schools are oriented toward positive adult-student relationships and remain small enough and undepartmentalized enough to maintain this orientation. But middle and high schools today often lack the desirable dimensions of a human community because of their large size and bureaucratic structure, the role definitions for teachers as subject-matter experts, the low level of involvement with students' families and communities, and the widespread tracking of students on the basis of academic preparation into different schools or programs and courses within schools. Each of these factors can be addressed by organizational and staffing innovations, but it is important to analyze the alternatives in terms of the complex general issues of operating mass educational institutions with goals of both quality and equity in student outcomes. Three recurring issues concern staffing for quality instruction and positive human relations, grouping to meet the diversity of student needs and interests, and increasing parent and community involvement in students' education.

Balancing Instructional Quality and Positive Teacher-Student Relations: Alternatives to Departmentalization

Almost all American middle and high schools, and many elementary schools, use departmentalized staffing where students receive daily instruction from several different teachers because each teacher specializes in a single subject. This practice is just about universal in high schools and almost as common in the middle grades; it is often reinforced by certification regulations that stipulate that only specialized teachers can be used in the secondary grades. The reasoning is that the content of each academic subject in the secondary grades requires teachers who are experts in the area, and that instruction will be of higher quality when teachers can take special pride in their subject-matter discipline and can concentrate on preparing a limited number of outstanding lessons each day that are offered to multiple classrooms. While research evidence supports some of the instructional benefits of departmentalized staffing (especially on the quality of instruction in science and history), the risks that many students will not encounter a positive human climate of caring and support have been even more strongly documented (McPartland, 1990, 1991; Byrk, Lee, and Wilson, 1990).

Positive teacher-student relations are made more difficult by departmentalized staffing in the typical large middle or high school for several reasons. In the earlier grades, teachers are likely to adopt a student-orientation that takes a broad view of the education of the whole class and assume a personal responsibility for the success of each individual in the class. On the other hand, teachers in the departmentalized setting of later grades are more likely to take on a subject-matter orientation where they have a professional identity with others in their field and seek to maintain higher standards in their teaching and in their expectations for student performance. Too often the specialized teachers will fail students who do not meet their standards without feeling any personal need to go beyond providing traditional classroom instructional activities. In addition, the logistics of student-teacher contacts in the departmentalized school make it difficult to provide the individual attention or close human relationships that many young adolescents need. A teacher who provides daily instruction to several different classes of students cannot get to know the needs of each individual well or to intervene with powerful individual programs for all who may need them. Students who change teachers for each period of the day will not relate to any of their teachers as strongly as when there is only one main adult in their classroom, as in the earlier grades.

Thus departmentalized staffing is often a two-edged sword in the middle and high school years, with different implications for instructional quality and a caring human climate. The task of research and development is to identify, develop, and evaluate alternative arrangements that can help students adapt to different situations or balance the competing goals. What are the external conditions that need to be changed to enable sensible alternatives?

Some students' motivation to stay in school and work hard at class work seems to be very responsive to the human climate of caring and support they feel from their teachers (Becker, 1987; Eccles and Midgley, 1989). Alternative schools, which are usually much smaller and recruit staff with a stronger student orientation than the typical comprehensive high school, have been found to be effective with many students who would otherwise have dropped out (Wehlage et al., 1989; Gold and Mann, 1984; Glatthorn, 1975). Addressing the possible loss of instructional quality when specialized staffing is not extensive, some argue that certain students' motivation is so tightly tied to their relations with teachers that they actually achieve more with fewer teachers (Bryk, Lee, and Lewis, 1990; Becker, 1987). Thus, in addition to attempts to reduce the size of inner city middle and high schools (through several smaller "school-within-a-school" administrative units in a large building), research needs to examine how departmentalized staffing could be limited and phased in secondary schools that serve disadvantaged youths. This means semi-departmentalized arrangements that use only two or three different teachers covering all subjects for each student, especially in the early secondary grades and the first grades after transition into middle or high school.

The more common way to offset the negative impacts of departmentalized staffing is to implement strong programs of interdisciplinary teacher-teaming with specific advisory functions. Teams of four teachers covering each of the major subjects will share the same four classrooms of students, with regularly scheduled "team time" to address individual student needs, and with each adult team member having a homeroom-advisory subgroup of special responsibilities. During the team periods, teachers identify students needing special attention and follow through by providing extra help and by coordinating problem solving approaches with the home. During advisory periods, teachers establish individual relationships with students for guidance and support and lead classroom sessions on student problems and responsibilities. A special case of teams and/or advisors that remain together with the same students for multiple years has sometimes been recommended for certain situations or student needs.

Unfortunately, national data does not show widespread use of promising practices, such as alternative schools, semi-departmentalization, and interdisciplinary teams and advisors with scheduled time (Epstein and MacIver, 1990; MacIver, 1991), due in part to external impediments of regulation and finance. Requiring subject-matter certifications for secondary school teachers gets in the way, but expecting dual subject certifications on a specialization in teaching adolescents will take new resources and incentives. Likewise, building team and advisory time into the regular schedule will add costs for additional staff to cover the instruction in the periods freed up for supportive functions. Staff development in new methods to diagnose and service individual student needs will also be costly.

Alternatives to Tracking: Meeting the Diversity of Student Needs

American students are routinely separated into different schools or into different programs or courses within schools, sometimes to service different student interests, but usually in response to existing student differences in prior preparation. Separate, selective schools exist in many districts at the high school level, and sometimes in the middle grades, that are attended by students who can pass stringent entrance requirements; the remaining students enroll in schools defined by neighborhood attendance boundaries (Moore and Davenport, 1990).

In elementary schools, special education provides at least a partially separate track, and disadvantaged students are overrepresented in that track. Chapter 1 pullout programs comprise another track in which disadvantaged students are overrepresented by definition. Also, many elementary schools begin tracking high- and low- achieving students into different classroom tracks as early as third grade.

In elementary schools, public policy concerning school organization has done much to counteract these tracking mechanisms through an emphasis on mainstreaming and schoolwide Chapter 1 programs, both achieved through legislation. But mainstreaming and schoolwide Chapter 1 programs both create more diversity in elementary school classrooms, and research is needed to examine how this diversity can be addressed so that all students succeed.

At both middle and high school levels, students are placed in differentiated programs and/or courses by their level of recent academic performance as determined by test grades or teacher judgments. High school programs are often labeled college-preparatory or academic, general, and vocational-technical, each having separate courses and requirements. Middle schools often have advanced academic or gifted and talented programs separate from regular and special education programs. Within high schools and middle schools, further separation occurs through track levels in each course so that, in a school with ten eighth grade classes, students would be assigned to separate math sections depending upon their prior achievement

scores.

Strong evidence exists that the learning environments in the less selective programs and lower tracks are much weaker, and that students in these tracks rarely grow enough academically to move to higher levels (Braddock, 1990; Oakes and Lipton, 1990; Gamoran, 1987; Slavin, 1987). The lower level learning environments are weaker because they are infrequently chosen by experienced teachers with seniority rights, they are stigmatized by low expectations of teachers and students, and they spend more time on activities that detract from serious learning.

The requirement of a common curriculum and the abolition of tracking in the middle and high school grades is regularly recommended by school reformers, including recent national commissions on the middle grades (Carnegie Task Force, 1989) and high schools (Quality Education for Minorities Project, 1990). But, because tracking is the major approach to deal with student diversity in academic skills and interests, it should be analyzed in terms of the need to accommodate instruction to student differences, when necessary. Before settling on the abolition of tracking as the one and only best approach for disadvantaged students, it is useful to investigate how student diversity can otherwise be taken into account in nontracked heterogeneous classes, as well as to consider when regrouping of students can be combined with other reallocations of resources to actually benefit at-risk students.

Improvements of three key categories of the learning environment may be necessary to make heterogeneously grouped classes work well: materials that are suited to students' different incoming skills, evaluation standards for strong incentives to learn, and individual activities for students at the extremes of the distribution of course mastery. While some research evidence is available that each of these improvements can be made, much more needs to be learned about the degree of accommodation needed in different subjects and the effects compared to other alternatives to tracking.

Most middle and high school courses are built on some assumptions of prior preparation, either in terms of specific prerequisite skills in a sequential subject such as mathematics or with regard to a general level of basic competencies such as reading comprehension skills for social studies or history courses. Special materials may help to neutralize the disadvantages for learning new course material of students with weaker prior preparations. For example, history materials covering the same history units have been written at different reading levels, so group instruction can proceed for the entire class while students handle reading assignments targeted to their current abilities (Epstein and Salinas, 1991; The Civic Achievement Award Program, n.d.). Providing hand held calculators in middle school mathematics classes may permit all students to move on to topics in algebra and problem solving, including individuals who would otherwise still struggle with arithmetic tasks involving fractions or percents. Students who have weak expository writing skills may be allowed to demonstrate their competencies in knowledge and critical reasoning for social studies and history courses through oral presentations supported by outlines and references. In the past, too many students who are behind in the middle grades have been relegated to remedial classes that go over and over rudimentary materials to drill and practice basic skills. In these examples, while it is expected that extra help will be provided to close previous gaps, the goal is to permit heterogeneous classes to learn common course contents for their grade, including associated higher order skills in each area (Levin, 1987).

Grades in most American schools depend to a major degree upon a student's relative standing among his or her classmates, so that the level of competition will be stiffer for many disadvantaged students in untracked heterogeneous classes than in lower track classes where other students enter the course at about the same level of preparation. In addition, doing away with homogeneous grouping might create a "frog pond" effect that depresses some disadvantaged students' self-confidence and educational aspirations due to their lower

class ranking among the more heterogeneous classmates. However, it is possible to alter the criteria for classroom success by adding credit for improvements over one's own starting point. As we noted earlier, recent middle school research evidence indicates that programs to add recognition for personal academic growth are practical and produce higher levels of students academic motivation and satisfaction (MacIver, 1991).

Finally, the concern exists that students at each end of the distribution in nontracked classes will feel ignored and uninvolved in untracked classes because group-based instruction will be aimed at the average student and be too hard for some and too easy for others. But research also suggests that roles can be structured in group-paced heterogeneous classes that engage all students in learning activities, and that long-standing methods for providing individualized enrichment activities (extra credit) to top students can be routinized to address diverse needs. For example, cooperative learning methods that encourage peer tutoring for group incentives but that require individual accountability for formal grades have been shown to capitalize on the classroom diversity of student skills with strong incentives for both students who are advanced and those who are behind (Slavin, 1983, 1989).

More work is needed to elaborate and disseminate the methods to make untracked classes work well. Various techniques are now available to modify classroom materials, evaluation processes, and instructional activities to suit the range of abilities and interests in most mixed classes, but the full specification, elaboration, and evaluation of these techniques still requires much work. There may be occasions when regrouping can be beneficial to disadvantaged students when combined with other resources, but only in alternative forms to the way tracking is usually practiced in this country. Too often, tracking involves a student's entire program based on a single general assessment of prior academic preparation, establishes the most homogeneous levels possible without setting instruction to match, fails to concentrate the best resources where they are most needed, offers little flexibility of reassignments, and gives no choice or incentive to participants to motivate extra effort. Grouping may be used to deal with student diversity without any of these shortcomings.

Instead of tracking a student's entire program, grouping may make sense in only one or two subjects based on separate evaluations in each area, with the rest of the students' program regrouped or occurring in nontracked heterogeneous classes. For example, in the middle grades, mathematics may be the one subject where regrouping makes sense to focus instruction on the point in the usual sequence of topics where different groups of students are currently found through direct tests of their mathematics skills at the beginning of the year. Some schools are able to schedule most of their mathematics faculty so they are teaching the same grade at the same period, which allows great flexibility in continuously regrouping students for math instruction throughout the year.

Instead of trying to fine-tune track assignments into the most homogeneous grouping—such as assigning students into separate reading classes in strict order of their test performance—some schools use broad band groupings to provide homogeneity only for students at the extremes and nontracking for the rest. For example, a ten-class grade could have one advanced class, one accelerated class to "catch up," and the rest randomly assigned. When the "catch-up" class is given extra resources—such as the best teacher, smaller size, and instructional aides—it may give students a boost over the term to accelerate their performance closer to grade level.

Instead of making classes for students who are behind into a cause for stigma, it is possible to allow students a choice in the assignment and to create a climate for pride and growth (Treisman, 1985; Ascher, 1991). Similarly, allowing students to choose among challenging courses that provide extra help may attract new

student commitments to work hard in courses where they perceive themselves to be most interested or most talented.

Research indicates that the weakening or destruction of a positive learning environment through tracking of disadvantaged students is unnecessary. We can make untracked classes work well for all students, and we can restrict tracking to a limited set of courses and students with special programs to benefit any homogeneous groupings that are used. Alternatives to tracking will require changes in current external conditions, such as providing the best and most experienced teachers with other direct incentives to replace their prerogative of tract placement and providing additional resources to permit accelerated learning when students who are far behind need special homogeneous classes.

Connections with Families and Communities

The human networks to support disadvantaged students' schooling must include family and community members, but these resources are rarely appealed to by schools.

There are often barriers to overcome with family members who are not comfortable with school officials, or whose personal schedules prevent visits with teachers during the regular school day (Lightfoot, 1978). Nevertheless, educators can make positive connections with the home that will almost always be responded to well by the adult members (Epstein, 1986). These connections may be specific, such as helping with school work at home, supporting activities at the school, or working with teachers by using home-based reinforcers to improve a students' attendance or other school behaviors. Each of these techniques require extra staff training and resources, but can pay off with increased student success at school (Epstein, 1991).

Similarly, a students' community is a resource for motivation and support, but requires organization and management skills to be useful. Recent research shows that adult mentors from the community working with individual disadvantaged youngsters can make a difference in improved school attendance and grades, but only when the program is well-run and focused (McPartland and Nettles, 1991). Also, school activities built around student service to their community can be excellent motivating experiences for improved school work, and may also help in character development (Newmann and Rutter, 1985-86).

Accommodation to Outside Factors and Help with Personal Problems

At-risk youth must often contend with outside factors or personal problems that get in the way of their ability to cope with school routines and requirements. Outside factors can range from the lack of adult supervision at home, to responsibilities of teenage parenthood or the need to hold a job to support themselves and family members. Personal problems can include substance abuse, physical or mental illness, and troubles at home from parents or family members who have serious problems of their own. Schools can effectively provide support for students with serious personal problems in a number of different ways, including coordination with health and human service professionals, establishment of alternative high school programs, alternatives to disciplinary removals and special education placements, and the use of advocates and mentors.

Service Delivery

Providing services of referring students directly to professional experts for help is one direction taken by

schools. Some high school dropout prevention approaches concentrate mostly on assistance to students with such outside-of-school programs (Orr, 1987, p. 149-163). Family support and mental health services can be closely integrated with school programs (Comer, 1988; Cooper, Munger, and Ravilin, 1980; Lorian, Work, and Hightower, 1984) or made accessible to students from centers closely linked to schools (New Jersey School-Based Youth Services Program, 1990).

Alternative Programs

Unconventional high school programs that accommodate outside factors in a student's life are another necessary way to make it possible for certain individuals to continue with their education. Flexible schedules to allow older students to work and on-site services to permit young mothers to continue their education are examples of successful alternative programs.

Alternatives to Disciplinary Removals and Special Education Placement

Disadvantaged students often have discipline problems in school that have dire effects on their educational progress; suspensions and special education placements are used too often to get rid of problem students. Instead, proven methods are available to provide such students with better coping skills to meet classroom demands, often in combination with a program of home-based reinforcers coordinated with family members. But these approaches take time and individual attention requiring new expenditures and staff training.

Summary and Research Implications

The conceptual framework on student motivation developed in this paper is not intended to deal directly with the controversial issue of which bilingual or nonbilingual instructional approach is to be favored for LEP students, but to indicate how any selected approach can be made most effective for the students involved. If the motivational sources we describe are weak, student apathy and dropout rates will continue to be high, no matter what instructional materials and approaches are in place for LEP students. While particular aspects of curriculum design may certainly contribute to LEP students' interest and engagement in learning activities, student motivation is often determined by fundamental features of the school organization —such as staffing, grouping, scheduling and grading methods—that can incorporate various instructional approaches. Thus, our framework on student motivation is offered not only as a basis for evaluating the potential effectiveness of any complete curriculum and learning environment for LEP students, but also as a vantage point on the current policies and practices that frustrate and alienate students and contribute to the alarming dropout rates for many Latino and other LEP students.

We need to establish much greater opportunities for students' academic success in the middle and high school grades by laying a firm foundation in the early grades in basic skills, providing effective extra help when it is needed in the upper grades, recognizing students for individual progress toward demanding standards, and offering realistic second chances to demonstrate learning without being failed or retained in grade. We need to make learning activities highly relevant to students' own interests and goals for the future by respecting and building upon resources that students draw from their own family and community, linking classroom lessons to real world problems and careers, and tying school behavior to realistic opportunities for education and employment in the near future. We need to personalize the human climate in the school to support learning by removing specific barriers to positive teacher-student relations, creating sustained learning communities of teacher teams who serve the same group of students, fostering positive peer norms

and support through cooperative learning approaches, and implementing effective alternatives to current tracking practices that deprive students in the low groups of important formal and informal resources for learning. We need to provide support services for students who have serious nonacademic difficulties by using the school as a main point of contact and coordinating with effective professional assistance and linking community and family members with school educators to work together in solving student problems.

Research has been more useful in describing the seriousness of the existing problems of unequal education opportunities for language minorities and other underserved students than in studying practical solutions to these problems. For example, alarming research statistics have shown that Latino students drop out of school at much higher rates than most other student subgroups, and frequently at earlier grades than other school dropouts (National Council of La Raza, 1990; Rumberger, 1991; National Commission on Secondary Schooling for Hispanics, 1984; Garcia, 1992). Research has also identified the much higher incidence of negative school experiences by LEP students that often lead to dropping out, such as assignments to lower tracks with restricted curricula that limit learning opportunities, grade retentions to repeat a year of courses in the same way that resulted in failures the first time around, and disciplinary removals or suspensions from school that further deprive troubled students from educational opportunities (Mehan, 1992). But research has not yet provided enough useful scientific evidence on specific alternatives to tracking, special education, retentions, and suspensions that will serve the needs of different groups of underserved students.

The agenda for high priority research should go beyond better evaluations of different curricular approaches to bilingual education (Cziko, 1992; Lam, 1992; Fillmore and Meyer, 1992) and include careful studies of specific school organization changes in grouping, grading, staffing and scheduling practices that can create conditions of high student motivation for any particular bilingual approach. The research agenda should also focus on the particular complexities of developing alternatives to tracking and other current dysfunctional practices that will best serve the special needs of the limited English proficient learner.

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